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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,018	11/05/2003	Guillaume Fuchs	01807.002482	5839

5514   7590   05/22/2007
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EXAMINER
GE, YUZHEN

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
05/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/701,018	FUCHS ET AL.
	Examiner	**Art Unit**	
	Yuzhen Ge	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12 April 2007*.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-69* is/are pending in the application.

    4a) Of the above claim(s) *1-7, 19-38 and 51-69* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *8-15, 17, 18, 39-46 and 48-50* is/are rejected.

7) ☒ Claim(s) *16 and 47* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *05 November 2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

       1. ☒ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Examiner's Remark

Applicant's response to election/restriction requirement, filed on April 12 2007, has been received and entered into the file. According to the response, Group I I (claims 8-18 and 39-50) is elected without traverse and therefore claims 1-7, 19-38, and 51-69 are withdrawn from examination.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15 recites the limitation "the followin g iteration". There is insufficient antecedent basis for this limitation in the claim. The examiner will interpret is as "the next iteration".

Claim Rejections - 35 USC § 102

2.   Claims 8-14, 17-18, 39-45 and 48-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Ji et al ("Block Permutation Coding of Images Using Cosine Transform", IEEE Trans. Communications, Vol. 43, No. 11, November 1, 1995, Pages 2833-2846, cited by IDS).

Regarding claim 8, Ji et al teach a method of encoding digital samples of a set of data representing physical quantities, the encoding including the determination of an amplitude model and of a path between the samples of the set, characterized in that it comprises the steps of:

determining (S5a, S20a, S25a) a number of samples to encode (right column, Page 2833, right column Page 2834, Fig. 1, Section III, Page 2835, Fig. 1),

constructing (S3a, S21a) a list comprising the determined number of samples, classified

by decreasing amplitude (right column, Page 2833, right column Page 2834, Fig. 1, right column

of Page 2836, Section V, Fig. 5).

Regarding claim 9, Ji et al teach a method according to claim 8, characterized in that it comprises

the steps of:

determining (S3a) an initial list of samples (right column of Page 2834, the set X is an

initial set of samples),

calculating (S5a) an encoding cost as a function of the list of samples (Section II, $H(X)$ is

the cost/entropy of the list, or ΔH or $H(\sigma_K \ \varepsilon \ S_K)$ can be regarded as the encoding cost, Eq. (21)-

(24)),

modifying (S8a) the list of samples, the steps of calculating and modifying being

reiterated to find a minimum encoding cost (right column of 2835, distribution of X is changed,

$H(\sigma_K \ \varepsilon \ S_K)$ is minimized, Eq. (21)-(24), Fig. 5).

Regarding claim 10, Ji et al teach a method according to claim 9, characterized in that it further

comprises the step (S10a) of encoding the set of data on the basis of the list of samples which

provides the minimum encoding cost (Section V, Fig. 5, Section III, Fig. 1, right column of Page

2834).

Regarding claim 11, Ji et al teach a method according to claim 9, characterized in that the initial list of samples comprises all the samples of the set of data (Section II, X contains all the samples of the set of data).

Regarding claim 12, Ji et al teach a method according to claim 9, characterized in that the modification (S9a) of the list of samples comprises the withdrawal of the sample of least amplitude (Section III, the new vector X is formed with amplitudes of the coefficients greater than a threshold).

Regarding claim 13 and 14, Ji et al teach a method according to claim 9. They further explicitly teach the method characterized in that the encoding cost (S6a) comprises the rate of the encoded data and/or distortion of the encoded data (right column of Page 2835, the error term can be regarded as the distortion, Section VI.B, Page 2836, left column of Page 2842, Eq. (24), Page 2864).

Regarding claim 17, Ji et al teach a method according to claim 8, characterized in that the set of data is a block of samples formed in a larger set of data (Section III, an image is a larger set of data, right column of Page 2835, Section I).

Regarding claim 18, Ji et al teach a method according to claim 8, characterized in that the data are a digital image (Section III, right column of Page 2835, Section I).

Claims 39-45 and 48-49 are the corresponding device claims of claims 8-14 and 17-18. Ji et al

teach a device (Section III, right column of Page 2835, computer is a device). Thus Ji et al teach

claims 39-43 and 48-49 as evidently explained in the above-cited passages for claims 8-14 and

17-18.

Claim Rejections - 35 USC § 103

3.   Claims 15, 46 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ji et

al ("Block Permutation Coding of Images Using Cosine Transform", IEEE Trans.

Communications, Vol. 43, No. 11, November 1, 1995, Pages 2833-2846, cited by IDS).

Regarding claim 15 (interpreted), Ji et al teach a method according to claim 8, comprising an

initialization of an evolutionary algorithm according to which a population of lists of samples is

determined, the population comprising a predetermined number of lists (the number of blocks is

predetermined, Section III), characterized in that the determination of the population comprises

the steps of:

determining (S21a) a first list of samples classified by decreasing amplitude (Section II,

right column of Page 2834, Section III, right column of Page 2835 and 2836),

modifying (S25a) the first list by withdrawal of a predetermined number of samples of

lowest amplitude, to form a second list (right column of Page 3825, X is modified, right column

of Page 3826, the DCT coefficients are modified), the steps of determining and modifying being

reiterated by taking the second list of an iteration as the first list for the following iteration

(Section III, it is implicit that each block is processed in an iteration, and the image is processed

block by block or list by list), provided that the predetermined number of lists has not been

reached (S23a) (Section III, it is implicit that each block is processed in an iteration, and the image is processed block by block or list by list until all the block or list is processed). However they do not explicitly teach the next iteration is performed provided the predetermined number of lists has not been reached (S23a) and that the second list has a non-zero number of samples. When the second list has zero number of samples, then there is nothing to process or encode in the list. It is desirable to be efficient when encoding and processing. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to perform next iteration provided the predetermined number of lists has not been reached (S23a) and that the second list has a non-zero number of samples.

Claim 46 are the corresponding device claims of claim 15. Ji et al teach a device (Section III, right column of Page 2835, computer is a device). Thus Ji et al teach claim 46 as evidently explained in the above-cited passages.

Regarding claim 50, Ji et al teach an encoding device according to claim 39. They do show computer results (Section III, bottom paragraph of Page 2835, Fig. 1). It is inherent that a computer has

 a microprocessor (100),

 a read only memory (102), and

 a random access memory (103) comprising registers adapted to record variables modified during the execution of said program.

However they do not explicitly teach a read only memory (102), comprising a program for processing the data. Normally a read-only memory in a computer is for storing programs or data that will not be changed. The program for processing data can certainly be stored in a read-only memory when the program is not intended to be changed by a user. It is desirable to protect the program from accidental and undesirable changes. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to store programs for processing data so that accidental changes and undesirable changes to the program can be avoided.

Allowable Subject Matter

4.   Claims 16 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter.   The prior art fails to teach the listed claims each of which specifically comprises the following listed feature(s) in combination with other limitations in the respective claims:

-- characterized in that the population is completed (S26a) by lists picked randomly, if the second list formed has a zero number of samples before the predetermined number of lists has been reached.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

WENPENG CHEN
PRIMARY EXAMINER